



ELECTRICAL CURRENTS

Newsletter from the Office of the Chief Electrical Inspector

Ron Fuller, Chief Electrical Inspector

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● **Adoption Of 2002 NEC And WAC Target Effective Date Is Now End Of May**

The WAC public hearings were held with videoconference equipment setups in eight different locations on March 25th and 26th. Chapter 296-46B WAC and the 2002 National Electrical Code (NEC) is targeted to be adopted and become effective the end of May 2003. Copies of the rules are posted now on the Electrical Program website at <http://www.lni.wa.gov/scs/electrical>, at **What's New**, then **Draft WAC Rules**. Electrical permits purchased after the WAC effective date will be inspected under the 2002 NEC. Plan review projects received after the effective date will be under the 2002 NEC. Although very few questions will be affected by the change, electrical examinations will be updated based on the 2002 NEC sometime this summer. All of the final dates, information, and links to the necessary applications will be sent to our listserver subscribers on our automatic e-mail notification system. Join at <http://listserv.wa.gov/archives/electrical.html>. Click on "**Join or leave the list**", then fill in the necessary information to subscribe.

● **LOCATION CHANGE FOR THE APRIL ELECTRICAL BOARD MEETING**

The April 24, 2003, Electrical Board meeting will be held at 9:00 AM, in the Lee Ann Miller Conference Center, Attorney General's Office, Rowe Six-Building One, 4224 6th Avenue SE, Lacey, WA 98504, (360) 438-8584. The regular meeting location in Tumwater is booked for another event.

● **RECRUITMENT ANNOUNCEMENT-Four Electrical Board Positions Available**

In July 2003 the following Electrical Board Positions will be available for appointment by the Governor: Electrical Contractor (two), Electrician, and the Electrical/Telecommunications Equipment Manufacturer/Distributor. Incumbent members and interested qualified persons may apply for these positions. Contact Rhonnda Jenkins at (360) 902-5572 or Angie Wharton at (360) 902-5259 for an application. Applicants should submit a letter of interest, completed application form, and current resume to the office of the Chief Electrical Inspector, PO Box 44460, Olympia, WA 98504-4460, no later than May 31, 2003.

● **WAC Development Kick-Off Meeting In Tumwater**

There will be a kick-off meeting **May 29, 2003**, 9:00 AM to 3:00 PM, in the auditorium at the Labor and Industries building, 7273 Linderson Way SW, in Tumwater to aid in establishing stakeholder membership for the next revision process. The process will closely approximate the National Fire Protection Association (NFPA) code panel model that has successfully served the electrical industry for 100 years. An annual revision cycle will be established to coincide with revisions due to legislative actions.

Stakeholder membership will consist of an engineer, training program, utilities, telecommunications, testing laboratory, manufacturer, electricians, contractors, regulators, and general public. To ensure equity in the revision process, representation will be proportionate to involvement in the industry. Like the NFPA code panels, workgroup representatives must have decision-making authority at the meetings. Specific details regarding proposals, stakeholder review, action, etc. will be included in the May edition of the ELECTRICAL CURRENTS.

● **Use Of Existing Underground Conduit**

In their January 2003 meeting, the Electrical Board again affirmed that properly licensed electrical contractors or property owners working under the exemption in RCW 19.28.261 must perform installation of underground electrical conduit. Conduit systems must be visually inspected under a valid electrical work permit prior to being covered. When our inspectors are called to inspect new conductors in existing conduit systems, they will require documentation of the original permit, inspection, and approval of the

covered raceway. If this information cannot be provided, we will not allow the conduit system to be used unless it is completely exposed for inspection.

● **NEW WAC PROPOSAL-Feeders Between Two Or More Buildings Or Structures**

This rule change exceeds the requirements of the NEC and has economic impact, so it has a delayed implementation date to allow contractors and installers time to adjust their bidding and installation practices. Proposed WAC 296-46B-250(1) states *“Effective August 1, 2003, an equipment grounding conductor must be installed with the circuit conductors between buildings and/or structures. A grounded conductor (i.e., neutral) is not permitted to be used in place of a separate equipment grounding conductor between buildings and/or structures.”*

● **EMT Installed In Concrete On Or Below Grade**

The current WAC 296-46A-348 (soon to be WAC 296-46B-358) states: *“electrical metallic tubing (EMT) may not be installed in direct contact with the earth or in concrete on or below grade”*. The intent of this WAC rule is to prevent the corrosion of “thin-wall” conduit where installed in concrete. In virtually all areas of Washington, concrete draws moisture from the soil. Therefore, the use of EMT in both walls and slabs is prohibited when the concrete is in direct contact with the earth.

● **Audio Cable Installed As Fixed Wiring Within Buildings**

Our inspectors have encountered cable listed for use as flexible cord installed inside the walls of residential units as a permanent wiring method to speaker systems. Cords and cables described in 2002 NEC Table 400.4 must comply with all installation criteria found in NEC 400.7-Uses Permitted and NEC 400.8-Uses Not Permitted. The Code clearly states that flexible cords and cables shall not be used *“where concealed by walls, floors, or ceilings or located above suspended or dropped ceilings.”*

Popular speaker cable type SPT (sometimes called “monster cable”) is a listed flexible cord and is not suitable when installed in walls, ceilings, etc. as the fixed wiring method of a structure. This type of flexible cord may be installed for home audio provided it is exposed, not run through holes in walls, ceilings, floors, windows, doorways, not attached to building surfaces, or otherwise in violation of NEC 400.7 and .8. Speaker cabling installed as a fixed wiring method within a building must meet the requirements of NEC Article 725. If the system output is Class 1, Class 2, or Class 3, the installed cable must have the equivalent listing and rating.

● **Telecommunications Installations Standards In Dwelling Units**

The electrical/telecommunications statute (chapter 19.28 RCW) requires *“all installations of wires and equipment defined as telecommunications systems”* to conform to the NEC, WAC, and approved ANSI/TIA/EIA standards. Even though installations in dwelling units generally do not require permits and inspections, the work must be done according to the appropriate standards. If a customer complaint or a required electrical inspection on the same premises reveals violations that require corrections, the telecommunications contractor will be required to purchase a permit for the return trip to verify the violations have been fixed.

● **Electrical Question of the Month**

This Month’s Question: A junction box is connected to conduit that extends directly to the forming shell that supports a wet-niche underwater luminaire in a swimming pool. This junction box shall: **A)** be listed for the specific use and have more grounding terminals than conduit entries.; **B)** be bonded to the pool common bonding grid with a solid copper conductor not smaller than #6 AWG.; **C)** be made of brass, stainless steel, or other corrosion-resistant metal.; **D)** be protected from physical damage and mounted not less than 8 inches above the pool deck.

Last Month’s Question: Overcurrent protection is required on the secondary conductors of all transformers. **A)** True; **B)** False. **The answer is: B)** False [2002 NEC Table 450.3(A) and (B)]